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IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A laser wavelength conversion apparatus comprising:
a wavelength conversion element for performing wavelength conversion of laser light entered from an entrance end surface and delivering laser light of a shortened wavelength from an exit end surface;

a heat sink surrounding a peripheral surface of said wavelength conversion element and having cooling fins;

a heater for uniform heating disposed in said heat sink and surrounding said peripheral surface of said wavelength conversion element;

a temperature sensor for measuring a temperature of said wavelength conversion element; and

a heater controller for controlling an electric current supplied to said heater for uniform heating so that the temperature measured by said temperature sensor becomes a preset temperature,

~~wherein said wavelength conversion element is divided along a direction of an optical axis~~ wherein the cooling fins formed on upward sides of the heat sink have planar faces extending vertically, and

wherein the planar faces of the cooling fins formed on the upward sides of the heat sink are arranged perpendicular to planar faces of the cooling fins formed on lower and upper sides of the heat sink.

Claim 2 (Currently Amended). The laser wavelength conversion apparatus as claimed in claim 1, ~~wherein of said cooling fins of said heat sink, cooling fins located on side~~

~~surfaces of the heat sink are arranged so as to extend in a vertical direction~~ wherein the cooling fins increase in surface area from the entrance end surface of the heat sink to the exit end surface of the heat sink.

Claim 3 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 1,

wherein said heater for uniform heating is a plurality of rod-shaped heaters arranged in said heat sink at equal intervals so as to surround said peripheral surface of said wavelength conversion element and to extend in a direction of said optical axis.

Claim 4 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 1,

wherein said heater for uniform heating is a film-shaped heater disposed so as to surround an outer peripheral surface of said heat sink.

Claim 5 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 1, further comprising:

heaters for temperature gradient correction placed on an entrance side end surface and an exit side end surface of said heat sink,

wherein said heater controller exercises temperature control such that an amount of heat generation from said heaters for temperature gradient correction on said entrance side end surface is larger than an amount of heat generation from said heaters for temperature gradient correction on said exit side end surface.

Claim 6 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 1, further comprising:

a loop gas pipe for blowing a cooling gas uniformly from surroundings toward the exit side end surface of said wavelength conversion element,
wherein said loop gas pipe is disposed on an exit end surface side of said heat sink.

Claim 7 (Canceled).

Claim 8 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 1, further comprising:

an anti-reflection coating applied to end surfaces of the divided wavelength conversion element.

Claim 9 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 1, wherein end surfaces of the divided wavelength conversion element comprise a polished surface.

Claim 10 (Currently Amended): A laser wavelength conversion apparatus comprising:

means for performing wavelength conversion of laser light entered from an entrance end surface and delivering laser light of a shortened wavelength from an exit end surface;

means for retaining heat surrounding a peripheral surface of said means for performing wavelength conversion and having cooling fins;

means for uniformly heating disposed in said means for retaining heat and surrounding said peripheral surface of said means for performing wavelength conversion;

means for measuring a temperature of said means for performing wavelength conversion; and

means for controlling an electric current supplied to said means for uniformly heating so that the temperature measured by said means for measuring the temperature becomes a preset temperature,

~~wherein said means for performing wavelength conversion is divided along a direction of an optical axis~~ wherein the cooling fins formed on upward sides of the heat sink have planar faces extending vertically, and

wherein the planar faces of the cooling fins formed on the upward sides of the heat sink are arranged perpendicular to planar faces of the cooling fins formed on lower and upper sides of the heat sink.

Claim 11 (Currently Amended): The laser wavelength conversion apparatus as claimed in claim 10, ~~wherein of said cooling fins of said means for retaining heat, cooling fins located on side surfaces of the means for retaining heat are arranged in such a state as to extend in a vertical direction~~ wherein the cooling fins increase in surface area from the entrance end surface of the heat sink to the exit end surface of the heat sink.

Claim 12 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 10, wherein said means for uniformly heating is a plurality of rod-shaped heaters arranged in said means for retaining heat at equal intervals so as to surround said peripheral surface of said means for performing wavelength conversion and to extend in a direction of said optical axis.

Claim 13 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 10,

wherein said means for uniformly heating is a film-shaped heater disposed so as to surround an outer peripheral surface of said means for retaining heat.

Claim 14 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 10, further comprising:

means for temperature gradient correction placed on an entrance side end surface and an exit side end surface of said means for retaining heat,

wherein said means for controlling an electric current supplied to said means for uniformly heating exercises temperature control such that an amount of heat generation from said means for temperature gradient correction on said entrance side end surface is larger than an amount of heat generation from said means for temperature gradient correction on said exit side end surface.

Claim 15 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 10, further comprising:

means for blowing a cooling gas uniformly from surroundings toward the exit side end surface of said means for performing wavelength conversion,

wherein said means for blowing a cooling gas is disposed on an exit side end surface of said heat means for retaining heat.

Claim 16 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 10, further comprising:

means for inhibiting reflection applied to end surfaces of the divided means for performing wavelength conversion.

Claim 17 (Previously Presented): The laser wavelength conversion apparatus as claimed in claim 10,

wherein end surfaces of the divided wavelength conversion mean comprise a polished surface.

Claim 18 (New): The laser wavelength conversion apparatus as claimed in claim 1, wherein said wavelength conversion element is divided along a direction of an optical axis.

Claim 19 (New): The laser wavelength conversion apparatus as claimed in claim 10, wherein said means for performing wavelength conversion is divided along a direction of an optical axis.